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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,613	12/05/2003	Takeshi Ikeda	09792909-5748	2535

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EXAMINER

JEAN BART, RALPH

ART UNIT	PAPER NUMBER
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2613

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/728,613	Applicant(s) IKEDA, TAKESHI	
	Examiner Ralph Jean-Bart	Art Unit 2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-12 is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,2 are rejected under 35 U.S.C. 102(e) as being anticipated by Chan et al (US 6,527,457).

4. With respect to claim 1, Chan teaches an optical integrated chip in which said light emitting element and said light receiving element are formed on the same chip (the examiner is interpreting the optical chip 4 of figure 1 as an optical integrated chip because the chip is equipped with a plurality of transmitters and receivers, see column 4 lines 7-9), and a light emitting section of said light emitting element and a light receiving section of said light receiving element are closely placed (paragraph 4 lines 9-12 discusses that the chip is mounted on one side that aligns the transmitter and receiver, and the examiner is interpreting that these elements are closely apart); and a circuit

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board where a via hole for inserting said optical fiber is formed (since the substrate is considered as a base or support for semiconductor devices, the examiner is interpreting the substrate of figure 1 element 2 as a circuit board because they both perform the similar function); wherein said optical integrated chip is mounted on one surface of said circuit board at a position where said light emitting section and said light receiving section are fitted into said via hole (see column 4 lines 7-11), and said optical fiber is inserted into said via hole to fix from the other surface of said circuit board (it should be noted that column 4 lines 16-19 discusses the fibers are pushed entirely into the hole and connected to the other side of the substrate which the examiner is interpreting as **"fix from the other surface of said circuit board"**).

5. With respect to claim 2, Chan teaches wherein an electrode pad to be connected to said optical integrated chip is placed on one surface of said circuit board (by definition an electrode is conducting electricity for the transfer of charge between the external circuit, and the examiner is interpreting element 25 (metallic alignment pads) of figure 2 as an electrode pads), and said optical integrated chip is mounted on said circuit board by flip-chip mounting (see column 6 lines 28-35).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al (US 6,527,457) in view of Nishii (Pub. No.: US 2002/0157862).

8. With respect to claim 3 all the limitations of this claim have been discussed in claim 1 above. Chan fails to teach said via hole is formed by laser beam machining.

However, Nishii teaches said via hole is formed by laser beam machining (see figure 4b element laser 5, where hole 6 is formed by a laser beam machinery).

Therefore it would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have modified the optical fiber guide of Chan by incorporating laser beam machining in order to form on the substrate a via hole for interlayer connections as taught by Nishii (see Nishii paragraph 0007).

9. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al (US 6,527,457) in view of Cham et al (Pub. No.: US 2004/0051028).

10. With respect to claim 4, all the limitations of this claim have been discussed in claim 1 above. Chan fails to teach a circuit for driving said optical integrated chip is formed on said circuit board.

However, Cham teaches a circuit for driving said optical integrated chip is formed on said circuit board (it should be noted that figure 4 shows two optical chips 308 and 305 where receiver 302 is generated optical power to transmitter 304 which the examiner is interpreting as a circuit for driving optical power).

Therefore it would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains to have

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modified the optical fiber guide of Chan by incorporating a circuit for driving said optical integrated chip is formed on said circuit board in order in order to provide a reliable and robust system to align and or optimize the alignment of such optical communication systems as taught by Cham (see Cham paragraph 0004).

Statement of Reasons for Allowance

Examiner Statement of Reason for Allowance.

Claims 6-12 are allowed.

Claims 6-12 are allowable because the prior art of record fails to teach of obtaining an optical component for separating an optical path from said light emitting section and an optical path to said light receiving section, and said optical component is placed inside said via hole between said optical integrated chip and said optical fiber, and a first waveguide through which a transmitting light is passed and a second waveguide through which a receiving light is passed are formed between said light emitting section and said light receiving section and an end surface of said optical fiber. Since independent claim 6 contains the claim language that is allowable as indicated on claims 6-12. Claims 6-12 are therefore novel and non-obvious.

Objection

Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ralph Jean-Bart whose telephone number is (571)270-1017. The examiner can normally be reached on Mon-Thurs 7:30-5:00PM; Fri 7:30-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571)272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Ralph Jean-Bart

07/12/2006


KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER